

**Remarks**

Claims 1, 6-19, and 149-165 are currently pending and under examination. By this Amendment claims 1, 8-13, 19, 149-157, and 163 are amended, no claims are canceled, and new claims 164 and 165 are added. No new matter is introduced.

Claim 1 is currently amended to specify that the isolated polymer consists of identical repeating units and that charge motifs are separated by neutral units. It should be clear that the polymer, by having identical repeating units (plural), each unit having a charge motif, has at least two repeating charge motifs. Support for separation of charge motifs by neutral units can be found, for example, at page 21, lines 2-7, where it is stated, “For instance, in a polymer having two repeating charge motifs separated by neutral units the polymer may have the following sequence: a positive charge first followed by a negative charge, followed by neutral units followed by a negative charge and finally a positive charge. Alternatively the polymer may have the following sequence: a positive charge first followed by a negative charge, followed by neutral units followed by a positive charge and finally a negative charge, etc.” [emphasis added]

Claims 8-13, which depend from claim 1, are currently amended to bring them into conformity with currently amended language of claim 1.

Claim 19 is currently amended to specify that the isolated polypeptide consists of identical repeating units. It should be clear that the polypeptide, by having identical repeating units (plural), each unit having a charge motif, has at least two repeating charge motifs.

Claims 149-157 and 163, which depend from claim 19, are currently amended to bring them into conformity with currently amended language of claim 19.

New claims 164 and 165 are directed to pharmaceutical compositions comprising certain (K-D)<sub>n</sub> polypeptides disclosed, for example, in Examples 4 and 5, found on pages 40-43 of the specification.

Applicant acknowledges that the Examiner has entered the Response to Final Office Action filed on October 19, 2004. Applicant respectfully requests the Examiner to consider the Response to Final Office Action together with the instant Amendment for purposes of the submission requirement for the RCE filed herewith.

Applicant further acknowledges that the Examiner indicated in the Advisory Action that claims 1, 6, 11-12, 14-19, 149, 152-156, and 158-163 remain rejected for reasons previously made of record. Applicant also acknowledges that the Examiner indicated in the Advisory Action that claims 7-10, 13, 150-151, and 157 remain objected to as being dependent upon rejected base claims 1 and 19, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Rejections Under 35 U.S.C. § 112, Second Paragraph***

The Examiner indicated in the Advisory Action that claims 15 and 154 remain rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Applicant respectfully disagrees, and, for reasons set forth below, requests the Examiner to reconsider and withdraw his rejection of claims 15 and 154 under 35 U.S.C. § 112, second paragraph.

The Examiner previously alleged that claim 15 is unclear because recitation of “non-native polypeptide” ambiguously refers to (i) a denatured form of said polypeptide which structurally and functionally differs from the native form of the polypeptide or (ii) a recombinantly produced or chemically modified polypeptide. The Examiner asserted that the specification does not provide sufficient definition for this recitation. In response, Applicant

previously directed the Examiner's attention to page 23, lines 28-30 of the specification, where appears a definition of "non-natural polymer" as "... a polymer that differs in composition or sequence from native naturally occurring polymers. It could not be prepared solely by isolation from natural sources without further modification." Applicant previously submitted that recitation of "non-natural polypeptide" clearly refers to a polypeptide that differs in composition or sequence from native naturally occurring polypeptides and could not be prepared solely by isolation from natural sources without further modification.

In response, the Examiner stated in the Advisory Action that Applicant's response was unpersuasive because the specification does not expressly define the non-native polypeptide, noting that the definition of "non-native polymer" cannot substitute for definition of "non-native polypeptide" because polymer broadly encompasses biopolymer. Applicant respectfully disagrees.

Applicant respectfully points out that the paragraph bridging pages 19-20 of the specification provides a definition of "polymer" as a compound having a linear backbone of individual units which are linked together by linkages. Polymers are specifically disclosed in the same paragraph to include, inter alia, polypeptides. Applicant therefore submits that the definition of "non-native polymer" can be applied to and understood with respect to "non-native polypeptide". Specifically, whereas a "non-natural polymer" is a polymer that differs in composition or sequence from native naturally occurring polymers and could not be prepared solely by isolation from natural sources without further modification (see above), it should be clear that a non-natural polypeptide is a polypeptide that differs in composition or sequence from native naturally occurring polypeptides and could not be prepared solely by isolation from natural sources without further modification.

Further, Applicant notes that the Examiner would apparently urge Applicant to limit "non-native polypeptide" to either (i) a denatured form of said polypeptide which structurally and functionally differs from the native form of the polypeptide or (ii) a recombinantly produced or chemically modified polypeptide. Applicant respectfully declines to adopt such a limitation. As should be apparent from the argument and passages cited above, Applicant submits there is no basis for requiring such a limitation. Specifically, "non-native polypeptide" fairly

encompasses, without limitation, both (i) a denatured form of said polypeptide which structurally and functionally differs from the native form of the polypeptide and (ii) a recombinantly produced or chemically modified polypeptide.

Accordingly, Applicant respectfully submits that the term “non-native polypeptide” is not indefinite and therefore requests the Examiner to reconsider and withdraw the rejection of claim 15 under 35 U.S.C. § 112, second paragraph.

The Examiner also alleged that claim 154 is unclear in “... are on adjacent amino acids” because “adjacent” can ambiguously refer to proximity in a space, e.g., in ternary structure, or in primary structure, i.e., amino acid sequence. Applicant respectfully disagrees and submits that persons of skill in the art to which the invention pertains, upon reading the specification taken as a whole, would understand that the term “adjacent” as used in this context is used in the sense of primary structure. For example, the specification at pages 19-21 discloses (i) repeating charge motifs separated by intervening sequence of at least 32 Å, (ii) positively charged free amino moieties of the at least two repeating charge motifs separated by a distance of at least 8 amino acid residues, and (iii) charged units of the [repeating charge] motif may be separated by any number but preferably by less than 10 neutral units. Applicant reiterates that these representative passages make most sense when read with the understanding that they are descriptions couched in terms of primary structure. Applicant therefore respectfully submits that the term “adjacent” when viewed in context is not unclear, and, accordingly, requests the Examiner to reconsider and withdraw the rejection of claim 154 under 35 U.S.C. § 112, second paragraph.

#### ***Rejections Under 35 U.S.C. § 102***

The Examiner previously indicated that claims 1, 6, 11-12, 14-19, 149, 152-156, and 158-163 are rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Pat. No. 5,514,581 to Ferrari et al. More specifically, the Examiner made this rejection on the basis of SEQ ID NO:66 of Ferrari et al.

In response to the final Office Action, Applicant previously amended claims 1 and 19 to specify that the polymer of claim 1, and likewise the polypeptide of claim 19, is composed entirely of identical repeating units (emphasis added). In contrast, and as previously argued by the Applicant, the polypeptide of Ferrari et al. includes but is not composed entirely of identical repeating units (emphasis added).

In response, the Examiner stated in the Advisory Action that Applicant's response was unpersuasive because the Ferrari composition does entirely comprise five identical repeating units (peptides) (emphasis added). Applicant respectfully disagrees with the rejection for the reasons set forth below.

Claims 1 and 19 are currently amended to specify, inter alia, that the polymer of claim 1, and likewise the polypeptide of claim 19, consists of identical repeating units (emphasis added). Applicant respectfully submits that this amended claim language clearly distinguishes over the Ferrari reference which discloses a polypeptide that comprises but does not consist of identical repeating units (emphasis added). Applicant therefore respectfully submits that the Ferrari reference does not anticipate the instantly claimed compositions at least because the polypeptide of Ferrari does not consist of identical repeating units, as required by claims 1 and 19 as currently amended.

Claims 6, 11-12, and 14-18 all depend from claim 1, and claims 149, 152-156, and 158-163 all depend from claim 19. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection of claims 1, 6, 11-12, 14-19, 149, 152-156, and 158-163 under 35 U.S.C. § 102(b) as being anticipated by Ferrari et al.

**Summary**

Amendments and arguments are presented in response to rejections made under 35 U.S.C. § 112, paragraph 2, and 35 U.S.C. § 102. For reasons set forth above, the Examiner is urged to withdraw all rejections.

Applicant believes the claims are in condition for allowance. A prompt and favorable action is earnestly solicited.

Respectfully submitted,  
*Tzianabos, et al., Applicant*



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